WHAT IS CLAIMED IS:

1. An optical disk apparatus which decodes data recorded in an optical disk by PRML (Partial Response and Maximum Likelihood) signal processing, comprising:

an optical pickup which irradiates the optical disk with a light beam, receives a reflected light ray therefrom, and provides a reproduction signal corresponding to the reflected light ray;

a servo offset setting portion which sets a servo offset of a servo system concerning the optical pickup;

an adaptive equalizer which is controlled by a signal decoded by the PRML signal processing and performs waveform equalization on the reproduction signal provided from the optical pickup; and

a servo offset change portion which obtains an optimum point of the servo offset by using a control result of the adaptive equalizer, and changes a set value of the servo offset setting portion.

2. The optical disk apparatus according to claim 1, wherein the adaptive equalizer includes an FIR filter, and the servo offset change portion obtains an optimum point of the servo offset by using a tap coefficient of the FIR filter.

3. The optical disk apparatus according to claim 2, wherein the servo offset setting portion has a focus offset setting portion which sets a focus offset

quantity of the light beam, and

the servo offset change portion has a focus offset change portion which obtains an optimum value of a focus offset by using a control result of the adaptive equalizer and changes a focus offset quantity of the focus offset setting portion.

4. The optical disk apparatus according to claim 3, further comprising a high-frequency component detection portion which detects an amplitude value concerning a high-frequency component of the adaptive equalizer, wherein the focus offset change portion obtains an optimum value of the focus offset based on the amplitude value of the high-frequency component detected by the high-frequency component detection portion.

5. The optical disk apparatus according to claim 4, wherein, provided that the PRML signal processing has even-numbered constraint length, a tap number of the FIR filter is 2N-1, and a value of the nth tap coefficient at a time t is expressed as C(t, n), the focus offset change portion adjusts the focus offset quantity in such a manner that the following expression becomes minimum:

$$C(t, N) - \{C(t, N1) + C(t, N-1)\} / 2.$$

6. The optical disk apparatus according to claim 4, wherein, provided that the PRML signal processing has odd-numbered constraint length, a tap

number of the FIR filter is 2N, and a value of the nth tap coefficient at a time t is expressed as C(t, n), the focus offset change portion adjusts the focus offset quantity in such a manner that the following expression becomes minimum:

$$[\{C(N-1) - C(N-2)\} + \{C(N+1) - C(N+2)\}] / 2$$

7. The optical disk apparatus according to claim 2, wherein the servo offset setting portion has a tangential tilt offset setting portion which sets a tilt offset quantity in a tangential direction of the optical disk, and

the servo offset change portion has a tangential tilt offset change portion which changes the tangential tilt offset to an optimum value by using a control result of the adaptive equalizer.

8. The optical disk apparatus according to claim 7, further comprising an asymmetry detection portion which detects an asymmetry of the adaptive equalizer in a direction of a time base, wherein the tangential tilt offset change portion adjusts a tangential tilt offset quantity in such a manner that the asymmetry detected by the asymmetry detection portion becomes minimum.

9. The optical disk apparatus according to claim 8, wherein, provided that the PRML signal processing has even-numbered constraint length, a tap number of the FIR filter is 2N-1, and a value of the

nth tap number at a time t is expressed as C(t, n), the tangent tilt offset change portion adjusts the tangential tilt offset quantity in such a manner that the following expression becomes minimum:

{C(t, N+1) - C(t, N-1)}.

10. The optical disk apparatus according to claim 8, wherein, provided that the PRML signal processing has odd-numbered constraint length, a tap number of the FIR filter is 2N, and a value the nth tap coefficient at a time t is expressed as C(t, n), the tangent tilt offset change portion adjusts the tangential tilt offset quantity in such a manner that the following expression becomes minimum:

{C(t, N+2) - C(t, N-2)}.

11. A servo offset adjustment method in an optical disk apparatus which decodes data recorded in an optical disk by using PRML signal processing, comprising:

setting a servo offset of a servo system concerning an optical pickup;

subjecting a reproduction signal provided from the optical pickup to waveform equalization by using an FIR filter;

controlling a tap coefficient of the FIR filter based on a signal decoded by the PRML signal processing; and

obtaining an optimum point of the servo offset

based on the tap coefficient of the FIR filter and changing the servo offset.